FACTORS INFLUENCING THE ADOPTION OF MOBILE BANKING AMONG GENERATION Y IN MALAYSIA

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A project report submitted in partial

fulfillment of the requirement for the award of the

Degree of Master in Technology Management

Faculty of Technology Management and Business

Universiti Tun Hussein Onn Malaysia

OCTOBER 2019

I would like to dedicate this thesis to

“ALMIGHTY”

(Who gave me strength, knowledge, patience, and wisdom)

To my late mother:

She taught me to persevere and prepared me to face the challenges with faith and humility. She was a constant source of inspiration to my life.

Although she is not here to give me strength and support. I always feel her presence that used to urge me to strive to achieve my goals in life.

To my caring “Brothers and Sisters”

(For their continuous support, encouragement, and efforts)

ACKNOWLEDGEMENT

First and foremost, I would like to express my sincerest thanks to ALLAH, the most gracious and most merciful God for the blessing, wisdom, health, strength, and patience that he gave upon me throughout this adventurous and exciting master's journey.

This journey will not be a dream comes true without an intellectual who has been patiently, supportively and continuously encouraging me to keep on working hard to complete this thesis. From the bottom of my heart, I would like to express my profound appreciation to my main supervisor, Dr. Siti Sarah Binti Omar, for her insights, words of encouragement coupled with this generous and patient to reviews, comments, and give thoughtful suggestions to improve this thesis. I am forever grateful to have met and had the chance to work with you.

To my parents who inculcated good virtues in me and guided me on the importance of knowledge since my childhood, I have no words to express my indebtedness rather than to say may Allah make Al-Jannat al-Firdaus their final abode. And to my siblings who remained prayerful and supportive throughout my scholastic journey, I express my indebtedness to them all.

ABSTRACT

The continuous development in technological innovations, especially in the banking sector, has led to a competitive environment that has changed the way consumers deal with banks, and one of the changes is mobile banking services. Although enormous benefits can be achieved from using mobile banking services, the acceptance, and usage rate of mobile banking in Malaysia is still low. This study was conducted to analyze the factors that influence consumers' intention towards mobile banking in Malaysia. The respondents of the survey were generation Y with a sample size of 384, which were selected based on random sampling technique. The primary data was collected through the use of adapted questionnaires. The survey findings were analyzed using the Statistical Package for Social Sciences (SPSS) version 22 and Partial Least Square-Structural Equation Modeling (Smart-PLS3). Descriptive and Confirmatory Factor Analysis techniques were used for data analysis. Findings indicated significant relationships between perceived usefulness, perceived ease of use, perceived risk, attitude, and behavioral intention to use mobile banking. It is suggested that banks in Malaysia should focus on mobile banking usefulness, easiness, and security to further promote efficient service delivery and increase the adoption of mobile banking services.

ABSTRAK

Pembangunan berterusan dalam teknologi inovasi, terutamanya bagi sektor perbankan telah menyebabkan peningkatan persaingan yang telah merubah cara pengguna berurusan dengan Bank. Salah satu pembaharuan adalah penggunaan perbankan mudah alih. Walaupun banyak faedah yang diperolehi daripada penggunaan perkhidmatan perbankan mudah alih ini, penerimaan dan penggunaannya di Malaysia adalah masih rendah. Kajian ini dijalankan untuk menganalisis faktor-faktor yang mempengaruhi penerimaan pengguna perbankan mudah alih di Malaysia. Responden kajian ini adalah generasi Y dengan saiz sampel sebanyak 384 menggunakan kaedah persampelan rawak mudah. Data primer yang dikumpulkan adalah dengan menggunakan borang soal-selidik yang telah disesuaikan. Kaji selidik ini dianalisis menggunakan Pakej Statistik untuk Sains Sosial (SPSS) dan Pemodelan Separa Persamaan Square-struktur (SmartPLS3). Teknik analisis faktor deskriptif dan gejala telah digunakan untuk menganalisis data. Penemuan menunjukkan terdapat hubungan yang signifikan antara kegunaan, kemudahan, risiko, sikap dan tingkah laku dalam penggunaan perbankan mudah alih. Hasil kajian mencadangkan bahawa sektor perbankan di Malaysia perlu memberi fokus kepada kelebihan perbankan mudah alih, kemudahan dan keselamatan untuk terus meningkatkan tahap perkhidmatan yang cekap dan meningkatkan penggunaan perkhidmatan perbankan mudah alih.

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LIST OF ABBREVIATIONS

ATT	Attitude
BI	Behavioral Intention
BNM	Bank Negara Malaysia
MCMC	Malaysian Communications and Multimedia Commission
PEOU	Perceived Ease of Use
PLS-SEM	Partial Least Squares Structural Equation Modelling
PR	Perceived Risk
PU	Perceived Usefulness
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
UK	United Kingdom
USA	United States of America

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter presents the background of the study, an overview of mobile banking in Malaysia, problem statement, research questions and objectives, limitation to research, significance, and scope of the research

1.2 Background of The Study

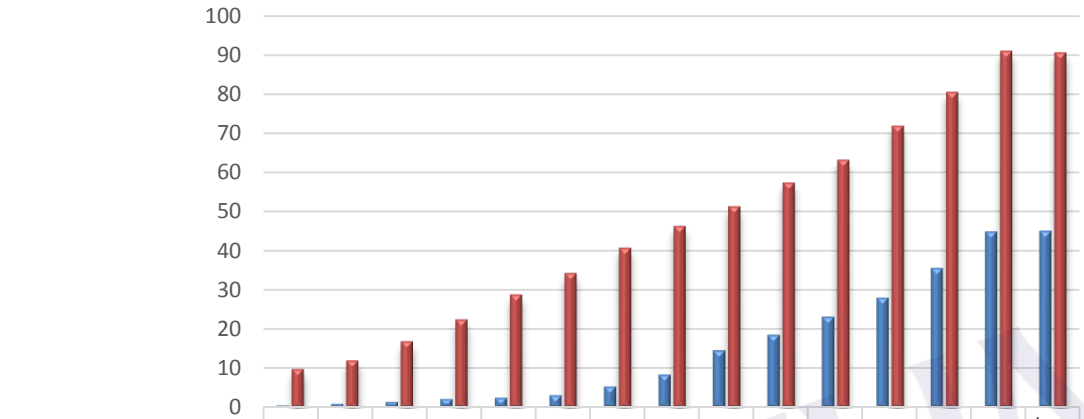
The development in the technological invention has a dominant outcome in the life of the millions of people around the globe. Several activities are handled electronically through the adoption of information technology in the workplace as well as at home, for example, e-mail and e-commerce activities. The internet has become an essential part of daily life for both consumers and businesses. Mobile banking, a sub-category of mobile commerce, has emerged as a new channel for conducting banking activities (Nasri & Charfeddine, 2012). Mobile banking is "A channel whereby the customer interacts with a bank via a mobile device such as mobile phone or personal digital assistant" (Scornavacca & Barnes, 2004). In addition Shuhidan, Hamidi, and Saleh, (2017) stated that mobile banking is a service, provided by the bank or other financial institutions that enable their clients to conduct financial transactions remotely using portable devices like mobile phone, personal digital assistant (PDA), tablet or other smart devices connected to a telecommunication network (Shuhidan, Hamidi, & Saleh 2017). Mobile banking is also known as cell phone banking and uses several technologies including Subscriber Identity Module (SIM), Wireless Application

Protocol (WAP), and Short Message Service (SMS). Mobile banking is among the youngest in a series of mobile technological marvels. While automated Teller Machines, banking systems over the phone and the internet provide effective delivery channels for traditional banking products, but as the most recent delivery channel established by retail and microfinance banks in developed and developing countries, mobile banking likely has a significant impact on the market (Safeena, Date, Kammani, & Hundewale, 2013).

According to Shaikh and Karjaluoto (2014), mobile banking exists at the end of the 1990s when the German company Pay box, together with Deutsche Bank, launched their primary service. At first, it was organized and tried for the most part in European countries like Germany, Spain, Sweden, Austria, and the United Kingdom. In 2007, Kenya was the first to introduce a text-based mobile banking service called M-Pesa (M for mobile and Pesa for money). By 2012, Kenya had more than seven million registered users of M-Pesa (Shaikh & Karjaluoto, 2014). As Veijalainen, Terziyan and Tirri, (2006) argue that the main driving force behind the rapid adoption of small mobile devices is the ability to maintain services and run applications at any time, anywhere, even on the move. Mobile banking has become more prevalent in developed and developing countries around the world, as evidenced by several studies conducted in the United States by Engwanda, (2014), in the United Kingdom by Slade, Williams, and Dwivdei, (2013); in China by Yanga, Pang, Liu, Yend, and Michael Tarn, (2015); in India by Roy, Balaji, Kesharwani, and Sekhon, (2017); in Pakistan by Glavee, Shaikh, and Karjaluoto, (2016); in Malaysia by Shanmugam, Savarimuthu, and Wen, (2014) and in Iran by Mehrad and Mohammadi, (2016). According to Juniper's (2016) research, more than 2 billion mobile users will have used their devices for banking by the end of 2021, compared to 1.2 billion worldwide this year. The growth in mobile banking is driven by the acceptance of banking applications by consumers.

Malaysian central bank (Bank Negara Malaysia) officially accepted and permitted mobile banking services in 2005 (Cheah, Teo, Sim, Oon, & Tan, 2011). In 2009, Maybank Berhad declared being the first bank in Malaysia banking sectors, provide mobile banking services to their customers, and launch banking application (M2UMap) using iPhone. Maybank's top three popular mobile banking services are bill payment, prepaid top-up and funds transfer (Maybank, 2009). Currently, seventeen

commercial banks in Malaysia offer mobile banking services to their customers (Malaysia's Payment Statistics, 2017). Although, mobile banking services are widely adopted in both developed and developing countries, the intention towards mobile banking by Malaysian banks customers is relatively low (Shuhidan *et al*., 2017).



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Jan-19
To the total population	0.5	0.9	1.4	2.1	2.4	3.1	5.3	8.3	14.5	18.4	23	27.8	35.4	44.6	44.8
Internet banking users	9.8	12	16.9	22.5	28.9	34.4	40.9	46.4	51.4	57.5	63.3	72	80.6	91.1	90.7

Figure 1.1: Penetration rate of mobile banking and internet banking to the total population in Malaysia (Bank Negara Malaysia, 2019)

Figure 1.1 presents the penetration rate of total mobile banking users and total internet banking users to the total population in Malaysia. At the initial stage in 2005, mobile banking was adopted by 0.5 percent of the total population, and in the same era, internet banking was adopted by 9.8 percent of the total population in Malaysia. Over time, the adoption of mobile banking increased, and more consumers adopted mobile banking with the percent of 3.1 of the total population in 2010. As clearly mentioned in Figure 1.1, the adoption level further increased from 8.3 percent in the year 2012 to 14.5 percent in 2013, which is a considerable increase. Contrariwise internet banking was adopted by a total of 46.4 percent of the total population in 2012 and 51.4 percent in 2013. Developments in technology and advancements in mobile banking applications have attracted many individuals and the adoption level pf mobile banking increased up to 44.8 percent of the total population till January 2019 while internet banking users reached a total of 90.7 percent of the total population in Malaysia.

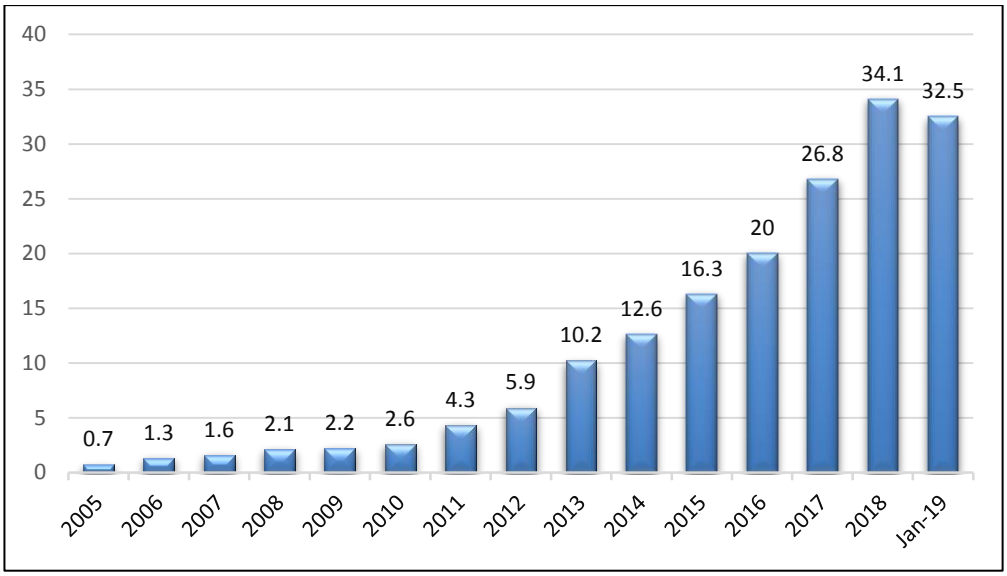


Figure 1.2: Mobile banking penetration to total mobile phone holders in Malaysia (Bank Negara Malaysia, 2019)

Figure 1.2 presents the penetration rate of mobile banking users to the total mobile phone holders in Malaysia from 2005 till January 2019, revealed by Bank Negara Malaysia. As mentioned in Figure 1.2 the penetration rate of mobile banking in the initial stage was 0.7 percent in 2005 to the total mobile phone holders over time more individuals adopted mobile banking and the penetration rate increased with the percentage of 4.3 of the overall mobile phone holders. Mobile banking adoption level further increased from 10.2 percent in 2013 to 20 percent in 2016 of the total mobile phone holders in Malaysia, showing a good gesture of a highly increased level. As reported by Malaysian Communications and Multimedia Commission (MCMC, 2017) mobile phone is the top media choice for most of the Malaysian and the increasing level of mobile phone showing a high increase from 68.7% in 2016 to 75.9% in 2017. On the other hand, the penetration rate of mobile banking users to the total mobile phone holders is 26.8 percent in 2017 while in 2018 it further increased to 34.1 percent and in January 2019 it decreased to 32.5 percent. Based on Figure 1.1 and Figure 1.2 it can be concluded that more efforts needed to be practiced in improving the number of users and penetration rate of mobile banking and to find out the influential factors which hinder the acceptance and increase in the usage of mobile banking in Malaysia. As a result, there is a possibility that mobile banking is still not well-known and its usage to the customers. There is a deficiency for that reason, to perceive the degree of

acceptance of mobile banking by the customers and to investigate the factors that influence the intention towards mobile banking acceptance in Malaysia.

The perception of usefulness, easiness, and risk for the acceptance of mobile banking is noted in many studies of banking in developed and developing countries. More in details, perceived usefulness, perceived ease of use, and perception of risk was found to be significant obstacles to the adoption of mobile banking (Tam & Oliveira, 2017). Besides, Kishore and Sequeira (2016) mention that individuals have a poor understanding of the risks associated with mobile banking, even though they are aware. The statistics as per Figure 1.1 and Figure 1.2 is evidence which specifies that usage and acceptance of mobile banking among consumers in Malaysia remains relatively low to mobile phone holders and total population. This study carried out a more in-depth study of the perceived usefulness and perceived ease of use regarding mobile banking and characteristics of the perceived risk to provide a more detailed understanding regarding the adoption and behavioral intention to use mobile banking in Malaysia.

Also, there is a scarcity of literature that investigates the behavioral intention in adopting mobile banking, specifically among Generation Y consumers. As mentioned by Shuhidan *et al.* (2017) that the majority of mobile subscribers in Malaysia are generation Y consumers. In generational studies, young people are called generation Y (individuals born between 1980 and 1994) (Kim, Knight, & Crutsinger, 2009; Tan & Lau, 2016). They are the first generation to have spent all their life in the digital environment; Information technology fundamentally influences how they live and work (Deventer & Klerk, 2017). Generation Y actively contributes, shares, searches for and consumes content plus works and plays on social media platforms. The generation Y is the early adopters of new technology products and services and therefore is considered to be more likely to use mobile banking in the future than other age group (Ruth, Parasuraman, & Hoefnagels, 2013). As per statistics by Malaysian Communications and Multimedia Commission (MCMC, 2017) that young adulthood in the range of 20 to 39 have the highest smartphone percentage in Malaysia. Therefore the purpose of this study was to examine the behavioral intention to adopt mobile banking services among the Generation Y consumers in Malaysia using the Technology Acceptance Model (TAM). As mobile banking is an emerging

technology, it is deemed appropriate to use the TAM to examine mobile banking behavioral intention.

1.3 Problem Statement

Mobile banking has been adopted and implemented in developed countries and the level of adoption has been an increasing trend in developing countries (Shaikh & Karjaluoto, 2014). A literature review of mobile banking adoption conducted by Shaikh and Karjaluoto, (2014) revealed that out of 55 studies, ten studies were conducted in developed countries, and the remaining 45 studies were in developing countries. As per Figure 1.3 among the most commonly investigated territories were Southeast Asia that is Malaysia and Singapore, East Asia that is Taiwan, China, and Korea, in Africa that is Ghana, Zimbabwe, and South Africa, in South Asia that is India; a small number of studies conducted in the USA and Europe that is Finland, Germany and Turkey. Also, Figure 1.3 shows the studies conducted in developing countries, most of the studies conducted in Malaysia (Shaikh & Karjaluoto, 2014). As stated earlier the adoption of mobile banking in Malaysia is lower compared to internet banking and total mobile phone holders; therefore there is a need to further investigate the influential factors and contribute in the existing literature to also increase the adoption level of mobile banking in Malaysia.

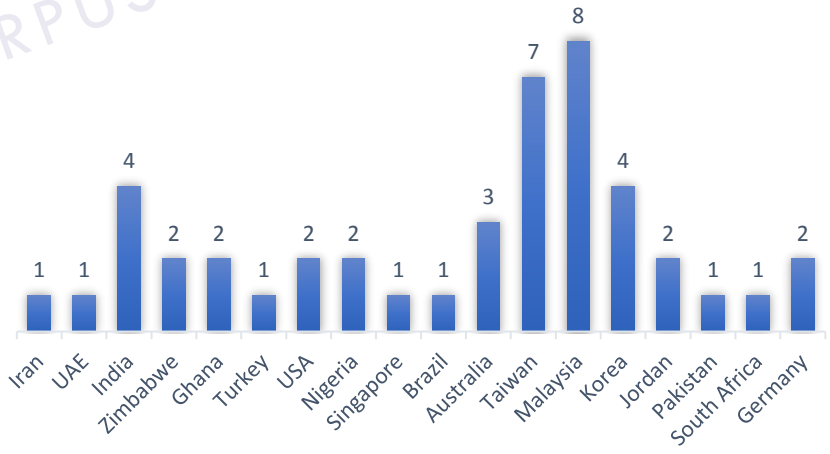


Figure 1.3: Mobile banking studies conducted in developed and developing countries (Shaikh & Karjaluoto, 2014)

In Malaysia, mobile banking introduced since 2005, despite the exponential development, the penetration rate of mobile banking is low compared to internet banking (Shuhidan *et al*., 2017). In summary, derive from the Figure 1.1 and Figure 1.2, showing the usage of internet banking has been increasing rapidly in recent years while mobile banking adoption is comparatively lower to total mobile phone holders and internet banking in Malaysia (BNM, 2019; and Shuhidan *et al*., 2017) (see Appendix B). Although mobile phone is the top media choice for most of the Malaysian, and the percentage of smartphone users continues to increase from 68.7% in 2016 to 75.9% in 2017, showing a high increase in smartphone penetration rate in Malaysia, on the other hand mobile banking subscribers are still low compared to mobile users (MCMC, 2017). Furthermore, Figure 1.1 and Figure 1.2 shows the percentage of mobile banking subscribers compared to the total population, mobile subscribers, and internet banking users exposed by Bank Negara Malaysia (Jan 2019).

The adoption of mobile banking can be slow due to several factors, Tam and Oliveira, (2017) in the literature review of mobile banking, mentioned some factors affecting the adoption of mobile banking in developed and developing countries. These factors are behavioral control, culture, effort expectancy, facilitating conditions, habit, hedonic motivation, information quality, consumer's attitude, interface quality, compatibility, credibility, perceived ease of use, relative advantage, perceived risk, self-efficacy, perceived usefulness, performance expectancy, price value, social influence, subjective norm, system quality, task characteristics, technology characteristics, task-technology fit and trust (Shaikh & Karjaluoto, 2014; Tam & Oliveira, 2017). In addition, the most commonly considered independent factors investigated in empirical studies conducted in developed and developing countries; is perceived usefulness, perceived ease of use, perceived risk, perceived trust and perceived self-efficacy (Shaikh & Karjaluoto, 2014; Tam & Oliveira, 2017).

Table 1.1 Mobile banking studies conducted in Malaysia

Year	Author	Factors investigated	Theory used
2006	Amin, Hamid, Tanakinjal, & Lada	Expectation Attitudes Demographics	No theory adopted
2007	Sulaiman, Jaafar, & Mohezar,	Personal innovativeness and Demographics	No theory adopted

Table 1.1 Mobile banking studies conducted in Malaysia (conituned)

2007	Amin, Baba, & Muhammad	Perceived usefulness Perceived ease of use Perceived credibility Normative pressure Perceived self-efficacy	TAM
2007	Amin	Perceived expressiveness Perceived usefulness Perceived system quality Perceived ease of use Social norm Intention to use Attitude	TAM
2010	Amin & Ramayah	Attitude Subjective norm Security and privacy concern	No theory adopted
2010	Tan, Chong, Loh, & Lin	Performance expectancy Effort expectancy Facilitating conditions Perceived credibility	UTAUT
2011	Daud & Kassim	Perceived usefulness Perceived ease of use Perceived credibility Customer awareness Perceived risk	TAM
2011	Cheah, Teo, Sim, Oon, & Tan	Perceived usefulness Perceived ease of use Relative advantages Perceived risk Personal innovativeness	TAM
2011	Eze, Ten & Poong	Personal innovativeness Subjective norms Perceived cost Perceived trust Perceived ease of use Perceived usefulness	TAM
2012	Amin, Supinah, Aris, & Baba	Perceived usefulness Perceived ease of use Perceived credibility Perceived enjoyment Perceived self-efficacy	TAM
2012	Teo, Tan, Cheah, Ooi, & Yew	Subjective norms Perceived usefulness. Perceived ease of use.	TAM
2013	Masrek & Razali	Technology Trust Trustworthiness Institution-Based Trust	No theory adopted
2014	Shanmugam, Savarimuthu, & Wen	Perceived usefulness Perceive ease of use Perceived benefit Perceived credibility Perceived financial cost	TAM
2016	Tan & Leby Lau	Performance expectancy Effort expectancy Social influence Perceived risk	UTAUT

REFERENCES

Aboelmaged, M. G., & Gebba, T. R. (2013). Mobile Banking Adoption : An Examination of Technology Acceptance Model and Theory of Planned Behavior. *International Journal of Business Research and Development*, *2*(1), 35–50.

Ahmad, I. (2015). A Study o n Customers ' Attitude towards Mobile Banking Adoption in India, *3*(11), 49–70.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*, 179–211.

Akturan, U., & Tezcan, N. (2012). Mobile banking adoption of the youth market. *Marketing Intelligence & Planning*, *30*(4), 444–459. https://doi.org/10.1108/02634501211231928

Al-Jabri, I. M., & Sohail, M. S. (2012). Mobile Banking Adoption : Application of Diffusion of Innovation Theory, *13*(4), 379–391.

Alalwan, A. A., Dwivedi, Y. K., Rana, N. P. P., & Williams, M. D. (2016). Consumer adoption of mobile banking in Jordan: Examining the role of usefulness, ease of use, perceived risk and self-efficacy. *Journal of Enterprise Information Management*, *29*(1), 118–139. https://doi.org/10.1108/JEIM-04-2015-0035

Ali, F., Kim, W. G., & Ryu, K. (2014). The effect of physical environment on passenger delight and satisfaction: Moderating effect of national identity. *Tourism Management*, *57*, 213–224. https://doi.org/10.1016/j.tourman.2016.06.004

Amin, H. (2007). Extending the technology acceptance model for SMS banking: Analyzing the gender gap among students. *International Journal of Business and Society*, *8*(1), 15–27.

Amin, H., Baba, R., & Muhammad, M. Z. (2007). An Analysis of Mobile Banking Acceptance by Malaysian Customers. *Sunway Academic Journal*, (4), 1–12.

Amin, H., Supinah, R., Aris, M. M., & Baba, R. (2012). Receptiveness of mobile banking by Malaysian local customers in Sabah: An empirical investigation. *Journal of Internet Banking and Commerce*, *17*(1), 1–12.

Arvidsson, N. (2014). Consumer attitudes on mobile payment services – results from a proof of concept test. *International Journal of Bank Marketing*, *32*(2), 150–170. https://doi.org/10.1108/IJBM-05-2013-0048

Aydin, G., & Burnaz, S. (2016). Adoption of mobile payment systems: a study on mobile wallets. *Pressacademia*, *5*(1), 73–73. https://doi.org/10.17261/Pressacademia.2016116555

Barnes, S. J., & Corbitt, B. (2003). Mobile banking: concept and potential. *International Journal of Mobile Communications*, *1*(3), 273. https://doi.org/10.1504/IJMC.2003.003494

Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations, (6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Bell, E., & Bryman, A. (2007). The ethics of management research: An exploratory content analysis. *British Journal of Management*, *18*(1), 63–77. https://doi.org/10.1111/j.1467-8551.2006.00487.x

BNM. (2019). Internet Banking and Mobile Banking Subscribers (end of period). *Bank Negara Malaysia*, 1. Retrieved from http://www.bnm.gov.my/payment/statistics/pdf/04_internet_banking.pdf

Breckler, S. J. (1990). Applications of covariance structure modeling in psychology: Cause for concern? *Psychological Bulletin*, *107*(2), 260–273. https://doi.org/10.1037/0033-2909.107.2.260

Bryman, A. (2013). Social Research Methods. In Intergovernmental Panel on Climate Change (Ed.), *Climate Change 2013 - The Physical Science Basis* (Vol. 53, pp. 1–809). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781107415324.004

Changchit, C., Lonkani, R., & Sampet, J. (2017). Mobile banking: Exploring determinants of its adoption. *Journal of Organizational Computing and Electronic Commerce*, *27*(3), 239–261. https://doi.org/10.1080/10919392.2017.1332145

Cheah, C. M., Teo, A. C., Sim, J. J., Oon, K. H., & Tan, B. I. (2011). Factors Affecting Malaysian Mobile Banking Adoption : An Empirical Analysis. *International Journal of Network and Mobile Technologies ISSN*, *2*(3), 149–160.

Chen, C. (2013). Perceived risk, usage frequency of mobile banking services. *An International Journal of Managing Service Quality*, *23*(5), 410–436. https://doi.org/10.1108/MSQ-10-2012-0137

Cheng, T. C. E., Lam, D. Y. C., & Yeung, A. C. L. (2006). Adoption of Internet Banking: An Empirical Study in Hong Kong. *Decision Support Systems*, *42*(3), 1558–1572. https://doi.org/10.1016/j.dss.2006.01.002

Cheong, H., & Park, M.-C. (2005). Mobile internet acceptance in Korea. *Internet Research*, *15*(2), 125–140. https://doi.org/10.1108/10662240510590324

Chitungo, S., & Munongo, S. (2013). Extending the Technology Acceptance Model to Mobile Banking Adoption in Rural Zimbabwe. *Journal of Business Administration and Education*, *3*(1), 51–79.

Cho, J. (2004). Likelihood to abort an online transaction: Influences from cognitive evaluations, attitudes, and behavioral variables. *Information and Management*, *41*(7), 827–838. https://doi.org/10.1016/j.im.2003.08.013

Comrey, A. L., & Lee, H. B. (2013). A first course in factor analysis. Psychology press (second). New York.

Cooper, D. R., & Schindler, P. S. (2014). *Business Research Methods*. *Business Research Methods*.

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, *78*(1), 98–104. https://doi.org/10.1037/0021-9010.78.1.98

Crabbe, M., Standing, C., Standing, S., & Karjaluoto, H. (2009). An adoption model for mobile banking in Ghana Margaret Crabbe , Craig Standing * and Susan Standing Heikki Karjaluoto. *International Journal of Mobile Communications*, *7*(5), 515–543.

Creswell. (2014). *Research design : qualitative, quantitative, and mixed methods approaches / John W. Creswell. — 4th ed.*

Cronbach, L. . (1951). Coefficient alpha and the internal s t r u c t u r e of tests* lf~ j. cronbach. *Pyshometrika*, *16*(3).

Danyali, A. A. (2018). Factors influencing customers' change of behaviors from online banking to mobile banking in Tejarat Bank, Iran. *Journal of Organizational Change Management*, *31*(6), 1226–1233. https://doi.org/10.1108/JOCM-07-2017-0269

Daud, N., & Kassim, N. (2011). Determining critical success factors of mobile banking adoption in Malaysia. *Australian Journal of Basic and Applied Sciences*, *5*((9), 252–265.

Davis. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13*(3), 319–340. https://doi.org/10.2307/249008

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management Science*. https://doi.org/10.1287/mnsc.35.8.982

Deb, M., & Lomo-David, E. (2014). An empirical examination of customers' adoption of m-banking in India. *Marketing Intelligence & Planning*, *32*(4), 475–494. https://doi.org/10.1108/MIP-07-2013-0119

Deventer, & Klerk. (2017). Antecedents of attitudes towards and usage behavior of mobile banking amongst Generation Y students. *Banks and Bank Systems*, *12*(2), 78–90. https://doi.org/10.21511/bbs.12(2).2017.08

Donner, J., & Tellez, C. A. (2008). Mobile banking and economic development: linking adoption, impact, and use. *Asian Journal of Communication*, *18*(4), 318–332. https://doi.org/10.1080/01292980802344190

Drexelius, K., & Herzig, M. (2001). Mobile Banking and Mobile Brokerage – Successful Applications of Mobile Business? *International Management & Consulting, 2001*, *16*(2).

Easterby-Smith, M. P. V, Thorpe, R., & Jackson, P. (2008). *Management Research: Theory and Research*.

Engwanda, M. N. (2014). *Factors Affecting Mobile Banking Adoption in the United*

States. *Dissertation*.

Farah, M. F., Hasni, M. J. S., & Abbas, A. K. (2018). Mobile-banking adoption: empirical evidence from the banking sector in Pakistan. *International Journal of Bank Marketing*, *36*(7), 1386–1413. https://doi.org/10.1108/IJBM-10-2017-0215

Gefen, D., Straub, D. W., & Boudreau, M.-C. (2000). Structural Equation Modeling and Regression : Guidelines for Research Practice. *Structural Equation Modeling*, *4*(August), 7. https://doi.org/10.1.1.25.781

George, A., & Kumar, G. S. G. (2013). Antecedents of Customer Satisfaction In Internet Banking: Technology Acceptance Model (TAM) Redefined. *Global Business Review*, *14*(4), 627–638. https://doi.org/10.1177/0972150913501602

Gerrard, P., & Cunningham, B. (2003). The diffusion of Internet banking among Singapore consumers. *International Journal of Bank Marketing*, *21*(1), 16–28. https://doi.org/10.1108/02652320310457776

Glavee-Geo, R., Shaikh, A. A., & Karjaluoto, H. (2016). Mobile banking services adoption in Pakistan: are there gender differences? *International Journal of Bank Marketing*, *35*(7), 1088–1112. https://doi.org/10.1108/IJBM-09-2015-0142

Gratton, C., & Jones, I. (2010). *Research Methods for Sports Studies (2nd ed.). Abingdon, Oxon: Routledge (Vol. 627)*. (Vol. 627).

Guriting, P., & Ndubisi, N. O. (2006). Borneo online banking: evaluating customer perceptions and behavioural intention. *MRN Management Research News*, *291*(12), 6–15. https://doi.org/10.1108/01409170610645402

Haenlein, M., & Kaplan, A. M. (2004). A beginner's guide to partial least squares analysis, understanding statistics". Statistical issues in psychology and social sciences, *3*(4), 283–297. https://doi.org/10.1207/s15328031us0304_4

Hair, J. E., & Huf, G. T. M. (2014). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Long Range Planning* (Vol. 46). https://doi.org/10.1016/j.lrp.2013.01.002

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *on Multivariate Data Analysis Joseph F . Hair Jr . William C . Black Seventh Edition*.

Hanafizadeh, P., Behboudi, M., Abedini Koshksaray, A., & Jalilvand Shirkhani Tabar, M. (2014). Mobile-banking adoption by Iranian bank clients. *Telematics and Informatics*, *31*(1), 62–78. https://doi.org/10.1016/j.tele.2012.11.001

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Hsu, C. L., Wang, C. F., & Lin, J. C. C. (2011). Investigating customer adoption behaviours in Mobile Financial Services. *International Journal of Mobile Communications*, *9*(5), 477. https://doi.org/10.1504/IJMC.2011.042455

Hughes, S. A. and J. A. (1981). Data Collection in Context. Retrieved from http://libweb.surrey.ac.uk/library/skills/Introduction to Research and Managing Information Leicester/page_51.htm

Islam, M. M., & Hossain, E. (2014). Consumers ' Attitudes towards Mobile Banking in Bangladesh. In *Conference: The Second World Congress on Computing and Information Technology (WCIT 2014)At: Kuala Lumpur, MalaysiaVolume: 2*.

Jackson, D. L. (2003). Revisiting Sample Size and Number of Parameter Estimates: Some Support for the N:q Hypothesis. *Journal of Pastoral Practice*, (4), 58–62. https://doi.org/10.1207/S15328007SEM1001

Jeong, B. K., & Yoon, T. E. (2013). An Empirical Investigation on Consumer Acceptance of Mobile Banking Services. *Business and Management Research*, *2*(1), 31–40. https://doi.org/10.5430/bmr.v2n1p31

Joseph F Hair, J., Hult, G. T. M., Ringle, C. M., Hamburg, & Sarstedt, M. (2016). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd ed.). SAGE. https://doi.org/10.1360/zd-2013-43-6-1064

Khraim, D. H. S., Shoubaki, Y. E. AL, & Khraim, A. S. (2011). Factors Affecting Jordanian Consumers ' Adoption of Mobile Banking Services. *International Journal of Business and Social Science*, *2*(20), 96–105.

Kim, H., Knight, D. K., & Crutsinger, C. (2009). Generation Y employees' retail work experience: The mediating effect of job characteristics. *Journal of Business Research*, *62*(5), 548–556. https://doi.org/10.1016/j.jbusres.2008.06.014

Kim, H. W., Chan, H. C., & Gupta, S. (2007). Value-based Adoption of Mobile Internet: An empirical investigation. *Decision Support Systems*, *43*(1), 111–126. https://doi.org/10.1016/j.dss.2005.05.009

Kim, Shin, & Lee. (2009). Understanding dynamics between initial trust and usage intentions of mobile banking. *Information Systems Journal*, *19*(3), 283–311. https://doi.org/10.1111/j.1365-2575.2007.00269.x

Kimutai, R. E. (2014). The relationship between perceived ease of use , perceived usefullness , behavioural intention to use and acceptance of mobile banking services. Master thesis. 2014.

Kishore, S. V. K., & Sequeira, A. H. (2016). An Empirical Investigation on Mobile Banking Service Adoption in Rural Karnataka. *SAGE Open*, *6*(1), 215824401663373. https://doi.org/10.1177/2158244016633731

Kleijnen, M., & Wetzels, M. (2004). Consumer acceptance of wireless finance, *8*, 206–218.

Kline, R. B. (1998). *Principles and Practice of Structural Equation Modeling*. New York: Guilford Press.

Kline, R. B. (2011). *Convergence of Structural Equation Modeling and Multilevel Modeling*. The SAGE handbook of innovation in social research methods. https://doi.org/10.4135/9781446268261

Koenig-Lewis, N., & Moll, A. (2010). Predicting young consumers' take up of mobile

banking services. *International Journal of Bank Marketing*, *28*(5), 410–432. https://doi.org/10.1108/02652321011064917

Koksal, M. H. (2016). The intentions of Lebanese consumers to adopt mobile banking. *International Journal of Bank Marketing*, *34*(3), 327–346. https://doi.org/10.1108/IJBM-03-2015-0025

Krejcie, R. V, & Morgan, D. W. (1970). Determining Sample Size for Research Activities Robert. *Educational and Psychological Measurement*, *38*(1), 607–610. https://doi.org/10.1177/001316447003000308

Krishanan, D., Teng, K. L. L., & Siti Khalidah. (2016). MEDIATING EFFECTS OF ATTITUDE TOWARDS CONSUMERS' PERCEIVED INTERACTIVITY IN USING MOBILE BANKING. *Journal of Global Business and Social Entrepreneurship (GBSE)*, *3*(5), 95–106.

Laforet, S., & Li, X. (2005). Consumers' attitudes towards online and mobile banking in China. *International Journal of Bank Marketing*, *23*(5), 362–380. https://doi.org/10.1108/02652320510629250

Lavrakas, P. J. (2008). *Lavrakas, P. J. (2008). Encyclopedia of survey research methods Thousand Oaks, CA: SAGE Publications Ltd*. https://doi.org/doi: 10.4135/9781412963947

Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, *8*(3), 130–141. https://doi.org/10.1016/j.elerap.2008.11.006

Lin, H.-F. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International Journal of Information Management*, *31*(3), 252–260. https://doi.org/10.1016/j.ijinfomgt.2010.07.006

Liu, Z., Min, Q., & Ji, S. (2009). An Empirical Study on Mobile Banking Adoption: The Role of Trust. *2009 Second International Symposium on Electronic Commerce and Security*, 7–13. https://doi.org/10.1109/ISECS.2009.150

Louis Cohen, L. M., & Morrison, and K. (2013). *Research Methods in Education* (7th ed.). Great Britain: Routledge.

Low, Y. M., Goh, C. F., Tan, O. K., & Rasli, A. (2017). Users' Loyalty Towards Mobile Banking in Malaysia. *Journal of Internet Banking and Commerce*, *22*(S7), 1–12.

Luarn, P., & Lin, H. (2005). Toward an understanding of the behavioral intention to use mobile banking, *21*, 873–891

Luo, X., Li, H., Zhang, J., & Shim, J. P. (2010). Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: An empirical study of mobile banking services. *Decision Support Systems*, *49*(2), 222–234. https://doi.org/10.1016/j.dss.2010.02.008

Mahad, M., Mohtar, S., Yusoff, R. Z., & Othman, A. A. (2015). Factor affecting mobile adoption companies in Malaysia. *International Journal of Economics and*

Financial Issues, *5*, 84–91.

Makanyeza, C. (2016). Determinants of consumers' intention to adopt mobile banking services in Zimbabwe. *International Journal of Bank Marketing*, *35*(6), 997–1017. https://doi.org/10.1108/IJBM-07-2016-0099

Malaysia, D. of S. (2016). Department of Statistics Malaysia, Retrieved from https://www.dosm.gov.my/v1/index.php?r=column/ctheme&menu_id=L0pheU43NWJwRWVSZklWdzQ4TlhUUT09&bul_id=OWlxdEVoYlJCS0hUZzJyRUcvZEYxZz09

Maybank. (2009). Maybank introduces first ever mobile banking services information for iphone applications in Malaysia, 10–11. Retrieved from http://www.maybank2u.com.my/mbb_info/m2u/public/personalBanking.do?

MCMC. (2017). Internet Users Survey 2017, Retrieved from https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/MCMC-Internet-Users-Survey-2017.pdf

MCMC. (2018). Internet Users Survey 2018, 1–39. Retrieved from https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/Internet-Users-Survey-2018.pdf

Mehrad, D., & Mohammadi, S. (2016). Word of Mouth impact on the adoption of mobile banking in Iran. *Telematics and Informatics*, *34*(7), 1351–1363. https://doi.org/10.1016/j.tele.2016.08.009

Mohammadi, H. (2015). A study of mobile banking loyalty in Iran. *Computers in Human Behavior*, *44*, 35–47. https://doi.org/10.1016/j.chb.2014.11.015

Mohammed, M. I. (2017). *Framework for Developing Reverse Mortgage Market in Malaysia*. Thesis.

Mullan, J., Bradley, L., & Loane, S. (2017). Bank adoption of mobile banking: stakeholder perspective. *International Journal of Bank Marketing*, *35*(7), 1152–1172. https://doi.org/10.1108/IJBM-09-2015-0145

Muñoz-Leiva, F., Climent-Climent, S., & Liébana-Cabanillas, F. (2017). Determinants of intention to use the mobile banking apps: An extension of the classic TAM model. *Spanish Journal of Marketing - ESIC*, *21*(1), 25–38. https://doi.org/10.1016/j.sjme.2016.12.001

Narteh, B., Mahmoud, M. A., & Amoh, S. (2017). Customer behavioural intentions towards mobile money services adoption in Ghana. *Service Industries Journal*, *37*(7–8), 426–447. https://doi.org/10.1080/02642069.2017.1331435

Nasri, W., & Charfeddine, L. (2012). Factors affecting the adoption of Internet banking in Tunisia: An integration theory of acceptance model and theory of planned behavior. *Journal of High Technology Management Research*, *23*(1), 1–14. https://doi.org/10.1016/j.hitech.2012.03.001

Neuman, W. L. (2014). *Social Research Methods: Qualitative and Quantitative Approaches*. *Relevance of social research* (Vol. 8). https://doi.org/10.2307/3211488

Nor, K. M., & Pearson, J. M. (2008). An exploratory study into the adoption of internet banking in a developing country: Malaysia. Journal of Internet Commerce, 7(1), 29-73.

Nysveen, H. (2005). Intentions to use mobile services: Antecedents and cross-service comparisons. *Journal of the Academy of Marketing Science*, *33*(3), 1–51.

Oly Ndubisi, N., & Sinti, Q. (2006). Consumer attitudes, system's characteristics and internet banking adoption in Malaysia. *Management Research News*, *29*(1/2), 16–27. https://doi.org/10.1108/01409170610645411

Omwansa, T. (2009). M-PESA : Progress and Prospects. *Progress and Prospects Innovations Case Discussion*, 107–123. Retrieved from https://profiles.uonbi.ac.ke/tomwansa/files/innov-gsma-omwansa.pdf

Pallant, J. (2007). *SPSS Survival Manual: A step by step guide to data analysis using SPSS for Windows (Version 10).*

Pallant, J. (2013). *SPSS Survival Manual: A Step by Step guide to data analysis using IBM SPSS* (5th ed.). England: Berkshire.

Pituch, K., & Stevens, J. P. (2016). *Applied Multivariate Statistics for the Social Sciences* (6th ed., Vol. 21). New York. https://doi.org/10.1016/j.trim.2009.04.004

Priya, R., Gandhi, A. V., & Shaikh, A. (2018). Mobile banking adoption in an emerging economy. *Benchmarking: An International Journal*, *25*(2), 743–762. https://doi.org/10.1108/bij-01-2016-0009

Puschel, & Mazzon. (2010). Mobile banking: proposition of an integrated adoption intention framework. *International Journal of Bank Marketing*, *28*(5), 389–409. https://doi.org/10.1108/02652321011064908

Renny, Guritno, S., & Siringoringo, H. (2013). Perceived Usefulness, Ease of Use, and Attitude Towards Online Shopping Usefulness Towards Online Airlines Ticket Purchase. *Procedia - Social and Behavioral Sciences*, *81*, 212–216. https://doi.org/10.1016/j.sbspro.2013.06.415

Rilling, S. (2015). *Mobile Banking Acceptance Among Young Consumers in Germany: an Empirical Analysis*.

Riquelme, H. E., & Rios, R. E. (2010). The moderating effect of gender in the adoption of mobile banking. *International Journal of Bank Marketing*, *28*(5), 328–341. https://doi.org/10.1108/02652321011064872

Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (1991). Criteria for Scale Selection and Evaluation. *Measures of Personality and Social Psychological Attitudes*, 1–16. https://doi.org/10.1016/B978-0-12-590241-0.50005-8

Roy, S. K., Balaji, M. S., Kesharwani, A., & Sekhon, H. (2017). Predicting Internet banking adoption in India: a perceived risk perspective. *Journal of Strategic Marketing*, *25*(5–6), 418–438. https://doi.org/10.1080/0965254X.2016.1148771

Ruth, R. N. B., Parasuraman, A., & Hoefnagels, A. (2013). Understanding Generation Y and their use of social media: A review and research agenda, *24*(3), 245–267.

Safeena, R., Date, H., Kammani, A., & Hundewale, N. (2013). Technology Adoption

and Indian Consumers: Study on Mobile Banking. *International Journal of Computer Theory and Engineering*, *4*(6), 1020–1024. https://doi.org/10.7763/ijcte.2012.v4.630

Saleem, Z., & Rashid, K. (2011). Relationship between Customer Satisfaction and Mobile Banking Adoption in Pakistan. *International Journal of Trade, Economics and Finance*, *2*(6), 537–543. https://doi.org/10.7763/IJTEF.2011.V2.162

Saleh, A. K. M. E. (2006). *Theory of Preliminary Test and Stein-Type Estimation With Applications:Theory of Preliminary Test and Stein-Type Estimation With Applications*. *Journal of the American Statistical Association* (Vol. 102). https://doi.org/10.1198/jasa.2007.s190

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students*. *Research methods for business students*. https://doi.org/10.1007/s13398-014-0173-7.2

Saunders, M., Lewis, P., & Thornhill, A. (2016). *Sixty new dragonfly and damselfly species from Africa (Odonata)*. *Odonatologica* (Vol. 44). https://doi.org/10.1017/CBO9781107415324.004

Scornavacca, J. ., & Barnes, S. J. (2004). M-banking services in Japan: a strategic perspective. *International Journal of Mobile Communications*, *2 (1)*(51–66).

Shah, R., & Goldstein, S. M. (2006). Use of structural equation modeling in operations management research: Looking back and forward. *Journal of Operations Management*, *52*(10), 737–743. https://doi.org/10.1016/j.jom.2005.05.001

Shaikh, A. A., & Karjaluoto, H. (2014). Mobile banking adoption: A literature review. *Telematics and Informatics*, *32*(1), 129–142. https://doi.org/10.1016/j.tele.2014.05.003

Shanmugam, A., Savarimuthu, M. T., & Wen, T. C. (2014). Factors affecting Malaysian behavioral intention to use mobile banking with mediating effects of attitude. *Academic Research International*, *5*(2), 236–253.

Sheng, M., Wang, L., & Yu, Y. (2011). An empirical model of individual mobile banking acceptance in China. *Proceedings - 2011 International Conference on Computational and Information Sciences, ICCIS 2011*, 434–437. https://doi.org/10.1109/ICCIS.2011.75

Shuhidan, S. M., Hamidi, S. R., & Saleh, I. S. (2017). Perceived Risk towards Mobile Banking: A case study of Malaysia Young Adulthood. *IOP Conference Series: Materials Science and Engineering*, *226*(1), 1–15. https://doi.org/10.1088/1757-899X/226/1/012115

Shukla, P. (2008). *Essentials of Marketing Research*. Retrieved from http://dspace.bhos.edu.az/jspui/bitstream/123456789/1717/1/marketing-research-an-introduction.pdf

Slade, E., Williams, M., & Dwivdei, Y. (2013). Extending UTAUT2 To Explore Consumer Adoption Of Mobile Payments. *UK Academy for Information Systems Conference Proceedings*, 23.

Sommer, L. (2011). The Theory Of Planned Behaviour And The Impact Of Past Behaviour. *International Business & Economics Research Journal*, *10*(1), 91–110.

Sonnentag, S., & Frese, M. (2002). Performance: Concept, Theory, and Predictors. *Psychological Management of Individual Performance*.

Succi, M. J., & Walter, Z. D. (1999). Theory of user acceptance of information technologies: an examination of health care professionals. *Proceedings of the 32nd Annual Hawaii International Conference on Systems Sciences*, *Track4*(c), 1–7. https://doi.org/10.1109/HICSS.1999.773013

Suh, Y.-H. (2009). Determinants of behavioral intention to mobile banking. *Expert Systems with Applications*, *36*(9), 11605–11616. https://doi.org/10.1016/j.eswa.2009.03.024

Surendran, P. (2012). Technology Acceptance Model : A Survey of Literature. *International Journal of Business and Social Research*, *2*(4), 175–178. https://doi.org/http://dx.doi.org/10.18533/ijbsr.v2i4.161

Tam, C., & Oliveira, T. (2017). Literature review of mobile banking and individual performance. *International Journal of Bank Marketing*, *35*(7), 1043–1065. https://doi.org/10.1108/IJBM-09-2015-0143

Tan, E., & Leby Lau, J. (2016). Behavioural intention to adopt mobile banking among the millennial generation. *Young Consumers*, *17*(1), 18–31. https://doi.org/10.1108/YC-07-2015-00537

Tan, K. S., Chong, S. C., Loh, P. L., & Lin, B. (2010). An evaluation of e-banking and m-banking adoption factors and preference in Malaysia: a case study. *International Journal of Mobile Communications*, *8*(5), 507–527. https://doi.org/10.1504/IJMC.2010.034935

Tang, J. E., & Chiang, C. (2009). Towards an Understanding of the Behavioral Intention to Use Mobile Knowledge Management. *WSEAS Transactions on Information Science and Application*, *6*(9), 1601–1613.

Teo, A. C., Tan, G. W. H., Cheah, C. M., Ooi, K. B., & Yew, K. T. (2012). Can the demographic and subjective norms influence the adoption of mobile banking? *International Journal of Mobile Communications*, *10*(6), 578–597. https://doi.org/10.1504/IJMC.2012.049757

Thakur, R., & Srivastava, M. (2014). Adoption readiness, personal innovativeness, perceived risk and usage intention across customer groups for mobile payment services in India. *Internet Research*, *24*(3), 369–392. https://doi.org/10.1108/IntR-12-2012-0244

Tobbin, P. (2012). Towards a model of adoption in mobile banking by the unbanked: a qualitative study. *Emerald Group Publishing Limited*, *14*(5), 74–88. https://doi.org/10.1108/14636691211256313

Urbach, N., & Ahlemann, F. (2010). Structural equation modeling in information systems research using partial least squares. *Journal of Information Technology Theory and Application*, *11*(2), 2–6.

Veijalainen, J., Terziyan, V., & Tirri, H. (2006). Transaction management for m-commerce at a mobile terminal. *Electronic Commerce Research and Applications*, *5*(3), 229–245. https://doi.org/10.1016/j.elerap.2005.10.010

Venkatesh, V. (2000). Determinants of Perceived Ease of Use : Integrating Control , Intrinsic Motivation , Acceptance Model. *Information System Research*, *11*(4), 342–365.

Wang, Y. S., & Lin, H. H. (2006). Predicting consumer intention to use mobile service. *Information Systems Journal*, *16*, 157–179. https://doi.org/10.1111/j.1365-2575.2006.00213.x

Wessels, L., & Drennan, J. (2010). An investigation of consumer acceptance of M-banking. *International Journal of Bank Marketing*, *28*(7), 547–568. https://doi.org/10.1108/02652321011085194

Wu, J. H., & Wang, S. C. (2005). What drives mobile commerce? An empirical evaluation of the revised technology acceptance model. *Information and Management*, *42*(5), 719–729. https://doi.org/10.1016/j.im.2004.07.001

Yang, H. D., & Yoo, Y. (2004). It's all about attitude: Revisiting the technology acceptance model. *Decision Support Systems*, *38*(1), 19–31. https://doi.org/10.1016/S0167-9236(03)00062-9

Yanga, Q., Pang, C., Liu, L., Yend, D., & Michael Tarn. (2015). Exploring consumer perceived risk and trust for online payments: An empirical study in China's younger generation. *Computers in Human Behavior*, *50*, 9–24. https://doi.org/10.1016/j.chb.2015.03.058

Yu, C.-S. (2012). Factors Affecting Individuals to Adopt Mobile Banking: Empirical Evidence from the UTAUT Model. *Journal of Electronic Commerce Research*, *13*, 104–121.

Yuan, S., Liu, Y., Yao, R., & Liu, J. (2014). An investigation of users' continuance intention towards mobile banking in China. *Information Development*, *32*(1), 20–34. https://doi.org/10.1177/0266666914522140

Yunus, M. (2014). Diffusion of Innovation , Consumer Attitudes and Intentions to use Mobile Banking, *4*(10), 12–19.

Zhou, T. (2012). Examining mobile banking user adoption from the perspectives of trust and flow experience. *Information Technology and Management*, *13*(1), 27–37. https://doi.org/10.1007/s10799-011-0111-8